There is a shift in traditional health care, from one-side dictated treatment to a situation wherein the patient is involved, self-determined, and performs self-care activities. This new patient role is complex, but by deploying Information and Communication Technology (ICT) in the medical domain, eHealth services can stimulate maintaining a healthy lifestyle. Moreover, in accordance with the SuperAssist model, in which ePartners offer personalized support, Personal Computer Assistants can enhance the use of eHealth services. However, there is little empirical research on how eHealth services with Personal Computer Assistants can support self-care and on what their effects are. Consequently, we studied how different Assistant feedback styles and representations can enhance eHealth services and support self-care, in relation to troubleshooting of domestic medical instruments and adherence to self-care objectives.

Throughout our research, we applied the Cognitive Engineering approach, entailing domain analysis and design specifications, which were iteratively augmented and refined through Smart Home lab and field studies. Most significantly, this approach permitted us to develop User-Centered Design models for Personal Computer Assistants, which tune their feedback and representation to the user and, as a result, can contribute positively to self-care activities, while maintaining a good quality of life.